



Product Technical Data Sheet

Product name: N-Acetyl D-Glucosamine

AC code: AC02312e

1. Technical Data Sheet		
Chemical Name	N-acetyl-D-(+)-glucosamine	
CAS number	7512-17-6	
Molecular weight	221.21	
Molecular Formula	C ₈ H ₁₅ NO ₆	
Compliance (Food / Pharmacopoeia / FCC / Feed)	Food / Pharmacopoeia / Cosmetic	
Source (animal, plant, mineral, petrochemical)	Bio-Synthetic	
Brief introduction:		
N-acetyl glucosamine is an ingredient playing a role in joint health, cartilage growth, and synovial fluid formation. There is study showing that the effect and absorption of N-acetyl glucosamine is 6 times better than traditional glucosamine.		
Item	Standard	Analysis Method
Appearance & Solubility		
Appearance	The product is white crystal or crystalline powder, odorless	
Typical Analysis		
Identification	Conforms to the Reference Spectrum	Enterprise Standard
Assay	98.0% ~ 102.0%	HPLC
Loss on Drying	≤ 0.5%	USP <731>
Residue on Ignition	≤ 0.1%	USP <281>
Specific Rotation	+39.0° to +43.0°	USP <781>
Transmittance	≥ 95.0%	In-house
PH	6.0 ~ 8.0	USP <791>
Chloride	≤ 0.1%	In-house
Sulfate	≤ 0.1%	USP <221>
Single Impurity	≤ 0.5%	HPLC
Total Impurities	≤ 2.0%	HPLC
Particle Size	98% through 40 mesh	In-house
Heavy metals		
Total Heavy Metals	≤ 10 ppm	USP <233>
Lead	≤ 3.0 ppm	USP <233>
Arsenic	≤ 1.0 ppm	USP <233>
Cadmium	≤ 1.0 ppm	USP <233>
Mercury	≤ 0.1 ppm	USP <233>
Microorganism		
Aerobic bacterial count	≤1,000 cfu/g	USP <61>
Total Molds & Yeasts	≤100 cfu/g	USP <61>
E.Coli	Negative/10g	USP <62>
Salmonella	Negative/25g	USP <62>

Certificated By Accredited Authority. E.G.: ISO Series, GFSI Series HACCP GMP、CGMP FAMI-QS、GMP+		<input type="checkbox"/> ISO9001 <input type="checkbox"/> ISO22000 <input type="checkbox"/> ISO14001 <input type="checkbox"/> ISO45000 GFSI Series: <input checked="" type="checkbox"/> BRC <input type="checkbox"/> FSSC22000 <input type="checkbox"/> IFS <input type="checkbox"/> SQF <input type="checkbox"/> GMP <input type="checkbox"/> HACCP <input type="checkbox"/> FAMI-QS <input type="checkbox"/> GMP+	
Product Related Certificates	<input checked="" type="checkbox"/> HALAL	<input type="checkbox"/> KOSHER	<input type="checkbox"/> IP <input type="checkbox"/> ORGANIC
Suitable For Vegan	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
We Confirm Above Mentioned Certificates Or Related Statement			<input checked="" type="checkbox"/>
And Keep Available			<input checked="" type="checkbox"/>

5.Process quality and food safety

Flow chart: This product specification has listed the detailed process flow chart of each step of the actual production process from raw material pretreatment to finished product warehousing, including possible additives, processing aids, steps to remove foreign matters, CCP, water used, compressed air etc.	Integrity flow chart available <input checked="" type="checkbox"/>
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CCP in place

CCP info.	CL	Location in process

Foreign body control

Have implemented control procedures for glass, fragile plastic materials

Pest control

Conducted by manufacturer:
 by external contractor Name of contractor: _____

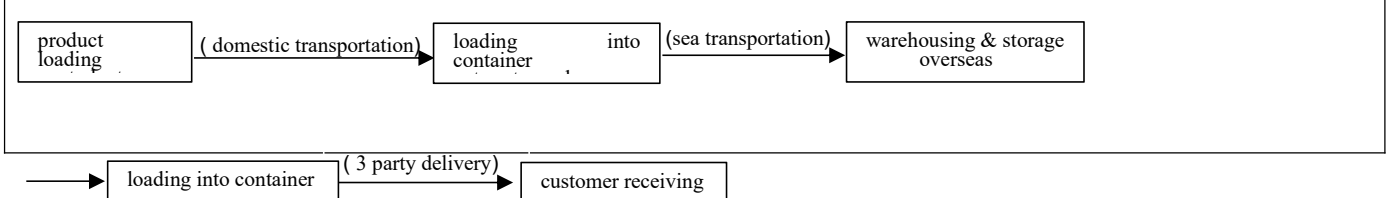
Batch no.& traceability

Batch size:	1000kgs
Batch definition:	Signification of the batch no. by an example: In 789093. If you subtract 7, 8, 9, 0, 9 and 3, you get the last two digits of the year, month, and date in the production date, such as 2021/09/06, that is the production date

We confirm that we perform batch and traceability management on the whole process from raw material receiving, production process, storage and transportation, by focusing on raw materials, semi-finished products, production processing and transportation, related records and product labels. Take traceability exercise on a annual basis.

Supply chain custody

list all the stages in the process of supply chain including detail of every link back to farm, field or ocean. Every time the raw material is moved, paid for, handled, stored or processed, and final to customer



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6. GMO declaration	YES	NO (Means Not Contain)
The product does not contain or consist of GMO	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The product is not produced from GMO or not contain ingredients produced from GMO (irrespective of whether there is NDA or protein of GM origin in the final production)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
This product is not produced by means of GM microorganism including precursor substances, e.g. with GMOs or Genetically Modified microorganisms processing aids(bacteria, yeast,..)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
This product is not produced with the help of enzymes, which were obtained from GMOs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the product contain any ingredients from animal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, are genetically modified crops contained in the feed for the animal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
We confirm that this product complies with regulations EC/1829/2003 and EC1830/2003 and keep NON-GMO statement available		<input checked="" type="checkbox"/>

7.Allergen declaration

We have carefully reviewed this product according to EU Regulation 1169/2011 and modifications and confirm the following:

	Direct incorporation as a base raw material or in a derivative form (don't forget the carriers, the additives and the processing aids)		CROSS CONTAMINATION						
			Presence on the production line		Presence on the production workshop		Presence on the production factory		
			Yes (precise nature)	No	Yes (precise the nature)	No	Yes (precise the nature)	No	Yes (precise the nature)
Cereals containing gluten(1) and products thereof		N		N		N		N	
Crustaceans and products thereof		N		N		N		N	
Eggs and products thereof		N		N		N		N	
Fish and products thereof (2)		N		N		N		N	
Peanuts and products thereof		N		N		N		N	
Soybeans and products thereof (3)		N		N		N		N	
Milk and products thereof (including lactose)(4)		N		N		N		N	
Nuts (5) or products thereof		N		N		N		N	
Celery and products thereof		N		N		N		N	
Mustard and products thereof		N		N		N		N	
Sesame seeds and product thereof		N		N		N		N	
Sulphur dioxide and sulphites at concentrations of more than 10mg/kg or 10 mg/l expressed as SO2		N		N		N		N	

Lupines and products thereof		N		N		N		N
Mollusc and product thereof		N		N		N		N

- (1) Cereals which contain gluten (i.e. wheat, rye, barley, oats, spelt, kamut or their hybridised strains) except: wheat-based glucose syrups including dextrose, wheat-based maltodextrins, glucose syrups based on barley, cereals used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages;
- (2) Except: fish gelatine used as carrier for vitamin or carotenoid preparations, fish gelatine or Isinglass used as fining agent in beer and wine;
- (3) Except fully refined soybean oil and fat, natural mixed tocopherols (E306), natural D-alpha tocopherol, natural D-alpha tocopherol acetate, natural D-alpha tocopherol succinate from soybean sources; vegetable oils derived phytosterols and phytosterol esters from soybean sources; plant stanol ester produced from vegetable oil sterols from soybean sources;
- (4) Except when used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages, lactitol;
- (5) almond (*Amygdalus communis* L.) hazelnuts (*Corylus avellana*), walnut (*Juglans regia*), cashew (*Anacardium occidentale*), pecan nuts (*Carya illinoensis*), brazil nut (*Bertholletia excelsa*), pistachio nut (*Pistacia vera*), macadamia nut and queensland nut (*Macadamia terniflora*) and products thereof, except nuts used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages;

8. NON IRRADIATION

(According to EU directive 1999/2/EC & 1999/3/EC)

This product has not been treated with ionising radiation	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO, not treated
None of the raw materials we used for this product have been treated with ionising radiation.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO, not treated
We confirm above Non-Irradiation statement is available	<input checked="" type="checkbox"/>	

9. NANOMATERIAL

(according to EU Regulation (EU) No. 1169/2011)

This product does not contain any nanomaterials as defined in EU food legislation	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO, does not contain
This product has not been made with nanotechnology	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO, is not made with nanotechnology
We confirm above Non-Nanomaterial statement is available	<input checked="" type="checkbox"/>	

10. Residual solvents

(according to UE Directive 2009/32 modified by (UE)2010/59; EP5.4; USP476; ICH Q3C(R7))

For this product following solvents are used during production process: Solvent A: max residual level:	<input type="checkbox"/> solvent used <input checked="" type="checkbox"/> solvent not used
We confirm solvent residual of this product complies with:	<input checked="" type="checkbox"/> EP 7.0 <input checked="" type="checkbox"/> USP <476> <input checked="" type="checkbox"/> ICH Q3C(R7) <input checked="" type="checkbox"/> Directive 2010/59/EU <input checked="" type="checkbox"/> NA
We confirm Solvent residual statement is available	<input checked="" type="checkbox"/>

11.Pesticide residual (according to EC 396/2005; EP07; USP <561>)	
This product is of vegetable origin	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
We confirm pesticide residual of this product complies with:	<input checked="" type="checkbox"/> EC 396/2005 <input checked="" type="checkbox"/> EP 07/2008 <input checked="" type="checkbox"/> USP<561> <input type="checkbox"/> N/A
Pesticide residual statement available	<input checked="" type="checkbox"/>

12.BSE/TSE information (according to EU legislation 999/2001; EP general chapter 5.2.8)	
<p>Cattle, sheep, goats and animals that are naturally susceptible to infect with transmissible spongiform encephalopathy agents or susceptible to infection through the oral route other than humans and non-human primates are defined as “ESE-relevant animal species</p> <p>Pigs ad birds are not naturally susceptible to infection via the oral route; therefore, they are not TSE-relevant animal species. Dogs, rabbits and fish are not TES-relevant animal species.”</p>	
the product contains no ingredients of ruminant origin and no materials derived from, or exposed to ruminants affected by or under quarantine for Transmitting Transmissible Spongiform Encephalopathy (TSE) / Bovine Spongiform Encephalopathy (BSE)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA
In the manufacturing of this product, there is no any raw or source material and /or reagent used that is of animal origin i.e. bovine, serum-albumin, enzymes, culture broths including those used to prepare working or master cell tanks	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Equipment/systems/tools use for processing or storage of the material do not come into contact at any time with materials of animal origin (e.g., components of media filler used to check such system)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
The material is not purified by using solvents, chromatographic media or buffers that contain components of animal origin	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
We confirm this product complies with:	<input checked="" type="checkbox"/> EU legislation 999/2001 & <input checked="" type="checkbox"/> EP general chapter 5.2.8
We confirm BSE/TSE statement is available	<input checked="" type="checkbox"/> YES

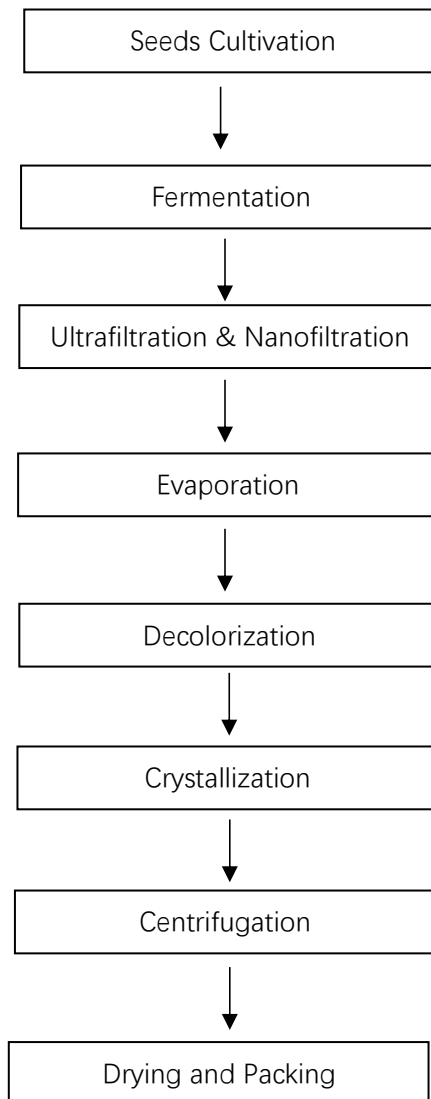
13.Contaminants information (according to EU Regulation No 915/2023 and NO.629/2008 as regards maximum levels for certain contaminants in foodstuff)	
<ul style="list-style-type: none"> ●Aflatoxin B1 <5ppb ●Aflatoxins B1 + B2 + G1 + G2 <10ppb ●Ochratoxin A <15ppb 	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
●Melamine	<input checked="" type="checkbox"/> YES

<p>For polycyclic aromatic hydrocarbons, in cocoa fibre, banana chips, food supplements and their preparations, dried herbs <i>and dried spices</i>:</p> <ul style="list-style-type: none"> ● Maximum level of 10 µg/kg of benzo(a)pyrene ● 50 µg/kg for the sum of PAH4 (PAH4; benzo[a]pyrene, chrysene, benz[a]anthracene and benzo[b]fluoranthene) in food supplements 	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
<p>We confirm this product complies with NO.1881/2006 and NO.629/2008 and keep compliance statement available</p>	<input checked="" type="checkbox"/> YES

14. Others

We confirm we could meet with the requirement on hygiene of foodstuffs according to Reg 852/2004.
 We confirm we could meet with the requirement on general principles and requirements of food law according to REGULATION (EC) No 178/2002

Flow Chart





Material Safety Data Sheet (MSDS)

SECTION 1- PRODUCT AND COMPANY IDENTIFICATION

Common Name : N-acetyl-D-glucosamine

Manufacturer: Yantai Acerbio Technology Ltd

Mailing Address: Tianmu Road, Laiyang Development District, Yantai, Shandong

Hours: 8 a.m. to 5 pm EST Mon.- Fri

Product use: N-acetyl-D-glucosamine is used for healthfood and pharmaceutical company.

SECTION 2 – HAZARD INFORMATION

Adverse Effects: Adverse effects may include nausea or other gastrointestinal upset. Possible allergic reaction to material inhaled ingested, or in contact with skin.

Overdose Effects: n/f

Acute: Possible eye, skin, gastrointestinal, and /or respiratory tract irritation.

Chronic: Possible hypersensitization.

Medical Conditions Aggravated by Exposure: Hypersensitivity to material

Cross Sensitivity : n/f

Target organs: n/f

For additional information on toxicity, see Section 11

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: N-acetyl-D-glucosamine

Formula: $C_8H_{15}NO_6$

Synonym: N-acetyl-D-glucosamine

Chemical Name: 2-Acetamido-2-Deoxy-D-Glucose

CAS: 7512-17-6

Chemical Family: Deoxy-D-Glucose

Therapeutic Category: n/f

Composition: Pure Material

SECTION 4- FIRST AID MEASURES

Inhalation: May cause irritation. Remove to fresh air

Eye: May cause irritation. Flush with copious quantities of water

Skin: May cause irritation. Flush with copious quantities of water

Ingestion: May cause irritation. Flush out mouth with water

General First Aid Procedures: Remove from exposure. Remove from exposure. Remove contaminated clothing. Person developing serious

hypersensitivity(anaphylactic) reactions must receive immediate medical attention. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.

Note to Physicians

Overdose Treatment: For current information about the treatment of overdose, consult a certified

Regional Poison Control Center by Calling the number Listed in your local telephone directory.

SECTION 5-FIREFIGHTING MEASURES



Extinguisher Media: Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.

Fire and Explosion Hazards: This material is assumed to be combustible. As with all dry powders,

it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential buildup of static electricity.

Firefighting Procedures: As with all fires, evacuate personnel to a safe area. Firefighters should

use self-contained breathing equipment and protective clothing.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Response: Wear approved respiratory protection, chemically compatible gloves, and protective clothing. Wipe up spillage or collect spillage using a high-efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labeled container for disposal. Wash spill site.

SECTION 7 – HANDLING AND STORAGE

Handling: As a general rule, avoid all contact and inhalation of dust, mists, and /or vapors associated with the material. Wash thoroughly after handling.

Storage: Store in tight container. This material should be handled and stored per label instructions to ensure product integrity. Store in desiccator.

SECTION 8- EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls: Engineering controls such as exhaust ventilate are recommended.

Respiratory Protection: Use a NIOSH-approved respirator, if it is determined to be necessary by

an industrial hygiene survey involving air monitoring. If a respirator is not required. An approved dust mask should be used.

Gloves: Chemically compatible

Eye Protection: Safety glasses or goggles

Protective Clothing: Protect exposed skin

Exposure Limits: n/f

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

Properties as indicated on the MSDS are general.

Appearance and Odor: White –yellowish powder slightly characteristic odor.

Odor Threshold: n/f

PH: 6.0 ~ 8.0

Melting Point: n/f

Boiling Point: n/f

Flash Point: n/f

Autoignition Temperature: n/f

Evaporation Rate: n/f

Upper Flammability Limit: n/f

Lower Flammability Limit: n/f

Vapor Pressure: n/f

Vapor Density: n/f

Specific Gravity: n/f

Solubility in water: n/f

Fat solubility : n/f

Other solubility : n/f

Partition Coefficient: n-octanol/water: n/f

Percent Volatile: n/f

Reactivity in water: /f

Explosive Properties: n/f

Oxidizing Properties: n/f

Formula: C₈H₁₅NO₆

Molecular Weight: n/f

SECTION 10 STABILITY AND REACTIVITY

Condition to Avoid: Avoid exposure to moisture

Incompatibilities: n/f

Decomposition Products: When heated to decomposition, material emits toxic fumes of SO₂ and

Na₂O. Emits toxic fumes under fire conditions.

Stable? Yes Hazardous Polymerization? NO

SECTION 11 TOXICOLOGICAL PROPERTIES

Oral Rat: LD₅₀:> 10 grams/kg

Oral Mouse: LD₅₀:> 10 grams/kg

Other Toxicity Data: n/f

Irritancy Data: n/f

Corrosivity: n/f

Sensitization Data: n/f

Listed as Carcinogen by : NTP: No IARC No OSHA: No

Other Carcinogenicity Data: No

Mutagenicity Data: n/f

Reproductive and Development Effects: Injection 1 ml of 2% N-acetyl-D-glucosamine in pregnant

mice on day 9,10 ,or 11 of gestation produced an increase in cleft palate and tail abnormalities in the offspring. Oral administration of 5000 mg/kg to pregnant mice or rabbits did not produce adverse effects in the offspring.

SECTION 12- ECOLOGICAL INFORMATION

Ecological Information: n/f

SECTION 13- DISPOSAL CONSIDERATIONS

Disposal: Dispose of waste in accordance with all applicable National, Provincial, and local laws

SECTION 14 TRANSPORT INFORMATION

Non-hazardous for air, sea and road freight.

Shipping name: Not regulated.

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazards: None. The substance is not subject to IMO IMDG Code.

SECTION 15- REGULATORY INFORMATION



China Regulatory Information: n/f

International Regulatory Information: n/f